

Remarks

In the office action mailed December 8, 2003, the Examiner rejected claims 1-6 and 10-23 under 35 U.S.C. § 112, second paragraph, and as being unpatentable under 35 U.S.C. § 103(a) claims 1-3, 5, 6, 10-14 and 16-23 over admitted prior art (hereinafter APA) in view of FR 2711573A to Dubois (hereinafter Dubois), U.S. Patent No. 5,466,211 to Komarek et al. (hereinafter Komarek), and optionally DE 4442767A1 to Ilzhöfer, et al. (hereinafter Ilzhöfer), claim 4 over APA in view of Dubois, Komarek and optionally Ilzhöfer, and in further view of U.S. Patent No. 1,491,134 to Northall (hereinafter Northall), claims 15, 21 and 23 over APA in view of Komarek and optionally Ilzhöfer, claims 1, 2, 5, 6 and 10-14 and 16-23 over APA in view of Dubois, JP 07081628A to Yoshinori (hereinafter Yoshinori), optionally Ilzhöfer, and GB 2061871A to Corner (hereinafter Corner), claim 3 over APA in view of Dubois, Yoshinori, optionally Ilzhöfer and Corner, and in further view of U.S. Patent No. 3,786,708 to Mumper (hereinafter Mumper), claim 4 over APA in view of Dubois, Yoshinori, optionally Ilzhöfer and Corner, and in further view of Northall, and claims 15, 21 and 23 over APA in view of Yoshinori, optionally Ilzhöfer, and Corner. Claims 7-9 were previously canceled.

By this amendment, Applicants' representative amends the specification, claims 1 and 15-23, and adds claims 24-53. The specification and claims 16-19 have been amended for consistency. Support for the amendment to the independent claims 1, 15 and 20-23, and the new claims can be found, for example, in Figs. 1, 2 and 4, and in the specification on page 7, ll. 3-34 and on page 8, ll. 15-29. In particular, Figs. 1 and 2 clearly illustrate cutting of the incision is of a force toward the cellular core sufficient to produce deformation of the first skin into the cellular core, the deformation of the first skin is greater than the thickness of the first skin, and the deformation of the first skin is at an angle greater than 30 degrees into the core. Fig. 2 clearly illustrates at arrow F, the vertical motion of cutting through the first skin and cellular core. As such, no new matter has been added.

With respect to the Examiner's rejections, the Examiner is invited to consider the following remarks.

Regarding the rejection of claims 1-6 and 10-23 under 35 U.S.C. § 112, second paragraph, the independent claims have been amended to obviate the rejection.

Amended claim 1 provides for a method of making a composite panel of sandwich structure and provided with a hinge, the method being characterized in that, after the panel has been formed, forming a hinge between two portions of the panel at a predetermined place in the panel by cutting an incision through one of first and second skins, and substantially through the entire thickness of a cellular core, while leaving the other skin intact, wherein said cutting of said incision is of a force toward said cellular core sufficient to produce deformation of said first skin into said cellular core, and whereby said hinge provides for multiple flexures of the panel at said hinge. Independent claims 15 and 20-23 provide similar recitations. The cited art, alone or in any combination, fails to provide the features of the presently pending independent claims.

In particular, APA (i.e., Dubois) is directed to a method of making a panel of sandwich-type composite structure having a cellular core. (See, present application, page 1, ll 15-17). Komarek is directed to a folded honeycomb panel where panels are folded and adhesive holds the panels in a folded position. (Komarek, for example, col. 5, ll. 9-14). Nowhere does Komarek disclose, teach or suggest a hinge that provides for multiple flexures of the panel at said hinge, as provided in the presently pending independent claims. Ilzhöfer concerns a lining for a motor vehicle, especially for use in engine compartment, that consists of glass net reinforced thermoplastic, which acts as a carrier material, and which has an opening capable of being closed by a flap. The flap is formed by partially stamping-out the carrier material, which has a softer material near the hinge axis. The hinge region preferably has a plastic layer, especially polypropylene layer, on the carrier side. (Ilzhöfer, Abstract). Yoshinori is directed to a floor covering material having a honeycomb layer and a skin layer. An integral hinge is arranged to open and close a part to cover the respective recessed parts. (Yoshinori, Abstract). Corner concerns a corrugated cardboard pallet having wing sections that pivot along their edges and are secured in place to a base section. (Corner, Abstract and col. 1, ll. 84-93). As such, Corner fails to be analogous art. Further, the hinge disclosed by

Corner merely provides for wing sections that pivot along their edges and are secured in place to a base section. Nowhere does Corner disclose, teach or suggest a hinge that provides for multiple flexures of the panel at said hinge, as provided in the presently pending independent claims. None of the cited references, alone or in any combination, provide cutting of an incision of a force toward a cellular core sufficient to produce deformation of a first skin into the cellular core.

As such, the cited art, alone or in any combination, fails to provide a method of making a composite panel of sandwich structure and provided with a hinge, the method being characterized in that, after the panel has been formed, forming a hinge between two portions of the panel at a predetermined place in the panel by cutting an incision through one of first and second skins, and substantially through the entire thickness of a cellular core, while leaving the other skin intact, wherein the cutting of the incision is of a force toward the cellular core sufficient to produce deformation of the first skin into the cellular core, and whereby the hinge provides for multiple flexures of the panel at the hinge, as provided in the presently pending independent claims. None of the cited references, alone or in any combination, provide the features of the presently claimed invention, the Examiner has failed to make a *prima facie* case of obviousness, and the rejection should be withdrawn.


Regarding the claims which depend from the independent claims, Applicants contend that these claims are patentable for at least the same reasons that the independent claims are patentable. Moreover, Applicants contend these claims recite further limitations, in addition to the limitations of the independent claims, which render these claims additionally patentable. In particular, dependent claims 24-29 provide the multiple flexures are in a range of 3 degrees to 45 degrees of the hinged portions (107, 108) having contact at the skin (103). In contrast, for example, Yosinori only provides for one part of the floor covering material 10 is bendable in a range of 180 - 30°. The hinged sections of Komarek and Corner are secured, not bendable for multiple flexures.

Consequently, in view of these remarks, Applicants respectfully contend that the rejections have been fully replied to and traversed, and that the application is in condition for allowance, and the Examiner is respectfully requested to pass this case to issue. A check in the amount of \$1490 is enclosed to cover the Petition fee of \$950 and the fee for thirty claims in excess of twenty of \$540. Please charge any additional fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978 -- a duplicate of this paper is enclosed for that purpose.

The Examiner is respectfully requested to telephone the undersigned to discuss prompt resolution of any remaining issues necessary to place this case in condition for allowance.

Respectfully submitted,

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